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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,012	09/26/2003	Gundrala D. Goud	42P17242	7681

7590 02/08/2007
Cory G. Claassen
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EXAMINER

WANG, ALBERT C

ART UNIT	PAPER NUMBER
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2115

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/672,012	Applicant(s) GOUD ET AL.	
	Examiner Albert Wang	Art Unit 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 13-20 and 30-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-20 and 30-37 is/are rejected.
- 7) ☒ Claim(s) 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 November 2006 has been entered.
2. Applicant's arguments with respect to claims 1-7, 13-20 and 30-38 have been considered but are moot in view of the new ground(s) of rejection. Independent claims 1, 14 and 32 have been amended, and new claims 37 and 38 have been added.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al., U.S. Pub. No. 2006/0031668 ("Miyamoto"), in view of Boyd et al., U.S. Pub. No. 2004/0049600 ("Boyd").

As per claim 1, Miyamoto teaches a method, comprising:

receiving a plurality of data packets by a processing system via a network during a pre-boot runtime of the processing system, each of the plurality of data packets containing one of a corresponding plurality of data segments of a boot agent and a boot image (par. 0021, data packets are inherently sent over digital networks; pars. 0030 & 0035-0036, ActiveOS downloaded from managing server; pars. 0037 & 0043, disk image downloaded from managing server);

parsing the plurality of data packets using a network protocol stack to receive the boot agent and the boot image during the pre-boot runtime, a portion of the network protocol stack executed in a hardware entity of the processing system during the pre-boot runtime (pars. 0010-0012, hardware protocol stack executed during boot-up; pars. 0061-0067);

transferring the boot agent and the boot image into system memory of the processing system during the pre-boot runtime (pars. 0026 & 0037, ActiveOS and disk image preferably stored in system memory);

executing the boot agent (pars. 0026 & 0030-0031);

branching into the boot image from the boot agent to initialize an operating system embedded within the boot image (pars. 0039 & 0043); and

executing the operating system (pars. 0044 & 0049).

Miyamoto teaches offloading a network protocol stack to hardware such as a network card during a pre-boot runtime (pars. 0010-0012 & 0061-0067). Miyamoto does not expressly describe such a network card as comprising one or more network protocol offload engines, even though the network card is executing an offloaded network stack to relieve processor and memory resources. Boyd teaches using one or more network protocol offload engines to relieve processor and memory resources (pars. 0006-0007). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art Miyamoto's network card may comprise a network protocol offload engine since Miyamoto's network card performs the function of a network protocol offload engine.

As per claim 2, Boyd teaches transferring data segments directly into system memory via RDMA (par. 0007).

As per claims 3 and 4, Boyd teaches using a TCP/IP Offload Engine (par. 0007).

As per claim 5, Miyamoto teaches executing UDP/IP in the hardware entity (par. 0062)

As per claim 6, Boyd teaches pre-posting a buffer in the system memory of the processing system prior to receiving a first one of the plurality of data segments, the buffer having a size corresponding to a data block (pars. 0113 & 0114).

As per claim 7, Miyamoto teaches the boot agent contains instructions for the processing system to execute to determine what to do with the boot image (pars. 0039 & 0043).

As per claim 13, Miyamoto teaches a network interface card (par. 0062). Boyd teaches an offload engine on an I/O adapter (pars. 0036, 0044 & 0054).

5. Claims 14-20 and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al., U.S. Pub. No. 2006/0031668 ("Miyamoto"), in view of Boyd et al., U.S. Pub. No. 2004/0049600 ("Boyd"), and French et al., U.S. Patent No. 6,988,193 ("French").

As per claim 14, Miyamoto teaches a machine-accessible medium that provides instructions that, if executed by a machine, will cause the machine to perform operations comprising:

receiving a plurality of data packets by a processing system via a network, each of the plurality of data packets containing one of a corresponding plurality of data segments of a boot agent and a boot image (par. 0021, data packets are inherently sent over digital networks; pars.

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0030 & 0035-0036, ActiveOS downloaded from managing server; pars. 0037 & 0043, disk image downloaded from managing server);

parsing the plurality of data packets using a network protocol stack to receive the boot agent and the boot image during a pre-boot runtime of the processing system, wherein a portion of the network protocol stack is executed in a hardware entity of the processing system during the pre-boot runtime (pars. 0010-0012, hardware protocol stack executed during boot-up; pars. 0061-0067);

transferring the plurality of data segments into system memory of the processing system during the pre-boot runtime (pars. 0026 & 0037, ActiveOS and disk image preferably stored in system memory); and

executing the boot agent (pars. 0026 & 0030-0031).

Miyamoto teaches offloading a network protocol stack to hardware such as a network card during a pre-boot runtime (pars. 0010-0012 & 0061-0067). Miyamoto does not expressly describe such a network card as comprising one or more network protocol offload engines, even though the network card is executing an offloaded network stack to relieve processor and memory resources. Boyd teaches using one or more network protocol offload engines to relieve processor and memory resources (pars. 0006-0007). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art Miyamoto's network card may comprise a network protocol offload engine since Miyamoto's network card performs the function of a network protocol offload engine.

Miyamoto does not expressly teach copying the boot image onto a hard drive of the processing system; resetting the processing system; and booting the processing system from the

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boot image copied to the hard drive. French teaches that software may be saved onto a local storage unit such as a hard drive, so that that the target will have the ability to perform a local boot (col. 4, lines 39-51). At the time of invention in view of French, it would have been obvious to one of ordinary skill in the art that Miyamoto's boot image may be copied to a data storage unit, in order to allow to local booting.

As per claim 15, Boyd teaches transferring data segments directly into system memory via RDMA (par. 0007).

As per claims 16 and 17, Boyd teaches using a TCP/IP Offload Engine (par. 0007).

As per claim 18, Miyamoto teaches executing UDP/IP in the hardware entity (par. 0062)

As per claim 19, Boyd teaches pre-posting a buffer in the system memory of the processing system prior to receiving a first one of the plurality of data segments, the buffer having a size corresponding to a data block (pars. 0113 & 0114).

As per claim 20, Miyamoto teaches the boot agent contains instructions for the processing system to execute to determine what to do with the boot image (pars. 0039 & 0043).

As per claim 30, French teaches updating the boot image (col. 4, lines 52-64). Copying over a previous boot image currently stored onto a hard disk to install a new or different boot image is well known in the art.

As per claim 31, copying a boot image onto a blank or formatted hard disk is well known in the art.

As per claim 32, Miyamoto teaches a method, comprising:

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receiving a boot agent and a boot image at a processing system via a network during a pre-boot runtime of the processing system within a plurality of data packets (par. 0021, data packets are inherently sent over digital networks; pars. 0030 & 0035-0036, ActiveOS downloaded from managing server; pars. 0037 & 0043, disk image downloaded from managing server);

parsing the plurality of data packets using a network protocol stack to receive the boot agent and the boot image during the pre-boot runtime, wherein a portion of the network protocol stack is executed in a hardware entity of the processing system during the pre-boot runtime (pars. 0010-0012, hardware protocol stack executed during boot-up; pars. 0061-0067); and

executing the boot agent (pars. 0026 & 0030-0031).

Miyamoto teaches offloading a network protocol stack to hardware such as a network card during a pre-boot runtime (pars. 0010-0012 & 0061-0067). Miyamoto does not expressly describe such a network card as comprising one or more network protocol offload engines, even though the network card is executing an offloaded network stack to relieve processor and memory resources. Boyd teaches using one or more network protocol offload engines to relieve processor and memory resources (pars. 0006-0007). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art Miyamoto's network card may comprise a network protocol offload engine since Miyamoto's network card performs the function of a network protocol offload engine.

Miyamoto does not expressly teach copying the boot image onto a hard drive of the processing system; resetting the processing system; and booting the processing system from the boot image copied to the hard drive. French teaches that software may be saved onto a local

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storage unit such as a hard drive, so that that the target will have the ability to perform a local boot (col. 4, lines 39-51). At the time of invention in view of French, it would have been obvious to one of ordinary skill in the art that Miyamoto's boot image may be copied to a data storage unit, in order to allow to local booting.

As per claim 33, Boyd teaches transferring data segments directly into system memory via RDMA (par. 0007).

As per claims 34 and 35, Boyd teaches using a TCP/IP Offload Engine (par. 0007).

As per claim 36, Miyamoto teaches executing UDP/IP in the hardware entity (par. 0062).

As per claim 37, Miyamoto teaches the boot agent and the boot image are received at the processing system together as a block of data (par. 0030).

Allowable Subject Matter

6. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert Wang whose telephone number is 571-272-3669. The examiner can normally be reached on M-F (9:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**CHUN CAO
PRIMARY EXAMINER**